CONTENTS.

PAGE

Integration of Operations in a Large Refinery. K. B. Ross and D. N. McKinlay . 1

A Rational Basis for the Viscosity Index System. J. Tadayon, E. W. Hardiman, and A. H. Nissan 28

Developments in Paint Oil Extenders. D. H. Tullis. 31

The Hydrocarbon Type Composition of Cracked Gasolines. H. C. Rampton. . 42

Oxidation of Turbine Oils in the Laboratory. D. Wyllie and G. C. N. Cheesman . 61

Dewaxing of Mineral Oil by Liquid–Liquid Extraction. T. G. Hunter and T. F. Brown 73

On the Chemical Composition of Oxidized Mineral Oils. D. J. W. Kreulen and F. G. Kreulen van Selms 88

On the Properties of Paraffin Wax in the Solid State. W. M. Mazee 97

Alkylnaphthalenes. Part III. The *n*-Butyl, Amyl- and Hexylnaphthalenes. A. S. Bailey, G. B. Pickering, and J. C. Smith 103

Evaporation Processes in a Burning Kerosine Spray. H. G. Wolfhard and W. G. Parker 118

Some Experiments on a Bearing and Wear-Testing Machine. A. Cameron . . 126

Thermal Decomposition of Lead Mercaptides. Geo. E. Mapstone 132

Obituary : **A. G. Forbes** 138

T. G. Madgwick 138

Correspondence : **Emulsions o Sea Water in Admiralty Fuel Oil** . 140, 219, 308

Detergency of Carbon Black in Hydrocarbon Solution. Part I. A. R. W. Baddeley, A. H. Nissan, and F. H. Garner 141

Reaction of Sulphur, Hydrogen Sulphide, and Mercaptans with Unsaturated Hydrocarbons. W. H. Hoffert and K. Wendtner 171

Evaporation Losses at Marketing Installations. R. L. Sarjeant 193

Colour Measurement. E. B. Evans, C. F. McCue, and W. A. Woodrow . . . 221

Sunbury Lubricating Oil Test Engine. J. R. Crowther, T. E. Pitkethly, and R. Stansfield 245

Penta-1 : 4-Diene. B. B. Elsner and E. R. Wallsgrove 259

The Influence of Tetra-ethyl Lead on Engine Design and Performance. F. R. Banks, C.B., O.B.E. 264

Alkylnaphthalenes. Part IV. E. E. Vago, E. M. Tanner, and K. C. Bryant . 293

The Surface-Tension Rule for Asphaltic Bitumen. F. J. Nillensteyn and M. Baart 302

Obituary : **Friedrich Bergius** 306

Robert Pitkethly 307

Production from Condensate Reservoirs. L. C. Stevens and B. P. Boots . . 309

Hydrocarbon Research Group 350

The Analysis of Gases by Absorption 353

Report of Council for 1948 363

Thirty-Sixth Annual General Meeting 375

Pioneers. E. A. Evans 379

CONTENTS.

PAGE

The Modern Trend in Tanker Construction. John Lamb 407

The Properties of Hydrocarbon Gas-Turbine Fuels. D. A. Howes and H. C. Rampton 419

The Beaker-Corrosion Test for Lubricating Oils. F. W. H. Matthews. . . . 436

The Measurement of Kinetic Boundary Friction with Reference to Specifications for Lubricating Oils. F. T. Barwell and A. A. Milne 455

An Ignition Delay Meter for the Determination of Cetane Number. H. J. Hulf, A. Rubach, and J. G. Withers 485

The Corrosive Sulphur Test. G. Claxton and K. H. V. French 496

Alkylnaphthalenes. Part V. Determination in Trinidad Petroleum. K. C. Bryant, G. T. Kennedy, and Miss E. M. Tanner 508

The Viscosity of Aero-engine Oils at Low Temperatures. S. G. Daniel. . . . 516

Oil-Soluble Sodium Naphthasulphonates. V. W. David 563

Estimation of Gas/Oil Ratios for Oil Wells Flowing Through Chokes or Beans. H. Gilmour 574

Special General Meeting 585

Reports of the Hydrocarbon Research Group.—Foreword 589

General Introduction to Preparation of Hydrocarbons. M. M. Jamison, M. S. Lesslie, and E. E. Turner 590

The Synthesis of Some Hydrocarbons. W. J. Hickinbottom and C. R. Porter . 621

Hydrocarbon Syntheses. F. R. Buck, B. B. Elsner, T. Henshall, T. S. Moore, A. R. Murray, S. H. Morrell, G. Müller, M. M. T. Plant, J. C. Smith, and E. R. Wallsgrove 631

Obituary : **Arthur Tetley Beazley** 669

Wilfred Hermann Hoffert 670

Arthur Gilbertson Hutchison 673

The Crude Oils of Trinidad. Part III. Relationship of Crude Oils and Stratigraphy in the Morne Diablo–Quinam Field. K. W. Barr, Frank Morton, A. R. Richards, and R. O. Young 675

Cathodic Protection and its Application to the Iraq Pipelines. W. R. C. Whalley. 705

The Evaluation of Gassing Tendencies of Insulating Oils: Apparatus, Procedure, and Effect of Experimental Variables. G. H. Beaven, J. A. Cockburn, and C. N. Thompson 735

" Knock " Tests using an Atmosphere in which Nitrogen is Replaced by Argon and Carbon Dioxide. D. Downs and J. H. Pignéguy 755

Adiabatic and Non-Adiabatic Rectification. Kuo-tsung Yu and James Coull . 770

The Shell-Ricardo Lubricating-Oil Test Engine. D. Downs 784

Calibration of I.P. Diesel Reference Fuels H.I.Q. and L.I.Q. in Terms of Cetane Number 791

The Application of Air-Foam to Oils Burning in Bulk. J. H. Burgoyne, L. L. Katan, and J. F. Richardson 795

The Use of Solid Carbon Dioxide to Extinguish the Burning of Liquids. J. H. Burgoyne, L. L. Katan, and J. F. Richardson 818

Some Practical Aspects of the Problem of Applying Foam to Large Tanks. E. Thornton 829

Oil from Shale: Experience in the United States. R. A. Cattell 841

Author Index 848

Name Index 851

Subject Index 855